

Quality of Recovery after Dexamethasone, Ondansetron or Placebo Intrathecal Morphine Administration

Official title: Role of dexamethasone or ondansetron in the quality of recovery after intrathecal morphine administration in patients undergoing lower limb surgery

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Study protocol

This randomised, double-blinded trial was approved by the Research Ethics Committee of the School of Medical and Health Sciences, Pontifical Catholic University of São Paulo (Sorocaba, São Paulo - Brazil), on June 14, 2016, CAAE 58208015.7.0000.5373 (Chairperson Prof. J.A. Costa). On the day of surgery, after completion of the pre-anesthetic evaluation and due explanations of the study, consent will be obtained. No participant will take any pre-anesthetic medication before surgery. Subjects will be randomised using a computer-generated (www.random.org) table of random numbers into 3 groups: S (saline), D (dexamethasone 8 mg), or O (ondansetron 4 mg). Group assignments will be sealed in sequentially numbered opaque envelopes that were opened after patient inclusion in the study. All care providers, researchers, and patients will be blinded to group assignments. Study 5-mL syringes will be prepared by a nurse independent of the study. Normal saline (5 mL total volume), dexamethasone (made up to 5 mL with normal saline), or ondansetron 4 mg (made up to 5 mL with normal saline) will be drawn into each syringe which will be offered to the anesthesia provider after the opaque envelope was opened.

After arrival in the operating room, standard ASA monitors will be applied. Immediately after venoclysis, e.v. midazolam will be administered as titrated doses to achieve 3 or 4 on Ramsay scale. Spinal puncture will be performed with the patient in the seated position in the median or

paramedian line at L3-L4 or L2-L3 interspace using a 26-gauge Quincke needle. Anesthesia will be established with a single bolus of 0.5% hyperbaric bupivacaine (17.5 mg if ≥ 70 kg or expected surgery duration > 150 minutes and 15 mg if < 70 kg) and preservative-free morphine 0.1 mg. Normal saline will be used for fluid replacement therapy. In case of failure of spinal anesthesia, the technique will be repeated or a general approach will be performed and the patient will be excluded from the study. Titrated doses of midazolam (up to 10 mg) or propofol continuous infusion will be administered to achieve perioperative sedation (≥ 4 on Ramsay scale). Supplemental oxygen 5 L/min via a vent mask will be administered during and after surgery.

PACU

All patients will be transferred to the PACU. Data related to the occurrence of pain, nausea, vomiting, pruritus, urinary retention and time to Aldrete score ≥ 9 at the PACU will be recorded. Pain will be assessed every 15 minutes using a 0-10 numeric pain rating scale (NRS), where zero meant no pain and 10 the worst imaginable pain. Morphine (1 to 2 mg) was administered intravenously every 10 minutes to maintain the pain score below 4 (1 mg when the pain score was < 7 and 2 mg when it was ≥ 7). PONV will be treated with dimenhydrinate (30 mg) intravenously. Pruritus will be classified as follow: 0 – no symptoms, 1 - 3 – mild symptoms, 3 - 7 moderate symptoms and 7 - 10 – severe symptoms. Nalbuphine 5 mg intravenously will be administered when score > 4 .

Ward

Following discharge from the PACU (minimum stay 60 minutes and Aldrete score ≥ 9), all of the participants were given ketoprofen (100 mg) every 12 hours and dipyrone (30 mg.kg⁻¹, maximum 1 g) every six hours intravenously. Whenever patients judged that their analgesia was

insufficient, tramadol (100 mg) was administered intravenously at eight-hour minimum intervals as needed. Postoperative nausea and vomiting (PONV) were treated with dimenhydrinate (30 mg) intravenously. An investigator who was blinded to group assignment collected all postoperative outcome data 24 hours after surgical procedure. Subjects were asked to rate the higher score of pain (NRS) during the hospital ward stay. Tramadol consumption, occurrence of urinary retention and the number of nausea and vomiting episodes were also recorded. These findings were confirmed with the ward nursing staff. All subjects stayed at hospital for at least 24 hours.

Data Collection

The baseline QoR-40 questionnaire was completed by the subjects after informed consent was obtained in the preoperative holding area and 24 hours after surgery by a blinded investigator. The QoR-40 questionnaire evaluates five dimensions of recovery (physical comfort – 12 items; emotional state – 7 items; physical independence – 5 items; physiological support - 7 items; and pain – 7 items). Each item was rated on a five-point Likert scale: none of the time, some of the time, usually, most of the time, and all the time. The total score on the QoR-40 ranges from 40 (very poor quality of recovery) to 200 (best quality of recovery).

The primary outcome of interest will be the QoR-40 score on POD1.